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TITLE: Consolidation of powder aluminum and
aluminum alloys.

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ABSTRACT:

CHG DATE=19990617 STATUS=O> A method of consolidating metal powders selected from the group consisting essentially of aluminum, aluminum alloys, and aluminum metal matrix composites includes: pressing the powder into a preform (16) and preheating the preform to elevated temperatures; providing a bed of flowable pressure transmitting particles (10a); positioning the preform in such

relation to the bed that the particles encompass the preform; and pressurizing the bed to compress the particles and cause pressure transmission via the particles to the preform, thereby to consolidate the body into desired shape.

Typically, the metal powder has surface oxide, and such pressurizing is carried out to break up, partially or fully, the surface oxide.